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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/713,434	11/15/2000	Edwin X. Graf	VOI0164.US	3225

7590 07/22/2002
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EXAMINER

JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 07/22/2002

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/713,434

Applicant(s)

GRAF ET AL.

Examiner

Mirellys Jagan

Art Unit

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 June 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-17 are objected to because of the following informalities:

Claim 1: Lines 5, 6, 7, and 12-13; Claim 4: Line 2; Claim 5: Lines 2-3; Claim 6: Line 3;

Claim 7: Line 2; Claim 10: Line 3; and Claim 16: Line 5, 7, and 17: The term “press

apparatus” should be changed to --pressure body-- because the pressure body is the part that moves toward and away from the support and includes the arms and seals (see page 4, lines 12-18, page 5, lines 14-15, and page 7, lines 7-8).

Claim 2: Line 1: There is lack of antecedent basis in the claim for “the belt”.

Claim 4: Line 4: “a transducer” should be changed to --the transducer--,

Claim 11: Lines 1-2: There is lack of antecedent basis in the claim for “the pressure transducer”.

Claim 12: Line 10: There is lack of antecedent basis in the claim for “the signal”.

Claim 15: Line 10: There is lack of antecedent basis in the claim for “the composite web”.

Claim 16: Lines 8 and 13: “or a felt” should be changed to --and a felt--, and “felt or belt” should be changed to --felt and belt--.

Claim 17: Line 5: There is lack of antecedent basis in the claim for “the transducers”.

Claims 3, 8, 9, 13, 14, and 17 are objected to for being dependent on objected base claims. Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-11, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,306,258 to Lange et al [hereinafter Lange] in view of U.S. Patent 5,562,027 to Moore.

Lange discloses an air press for a paper web (web) disposed to travel between an upper material and a lower material (upper fabric and lower fabric, respectively), the air press having:
a press apparatus (20) having a pressure body (box 34), and a support (roll 124), the pressure body and the support defining a gap therebetween,

the press apparatus having an air chamber (pressure box 28) for applying pressurized air to the upper material, leading and trailing arms (baffles 36 and 38) [belonging to the pressure body] with a seal (ceramic shoes 53 and 54) mounted on a distal end of each arm for contacting one of the upper material and the lower material in nipping engagement over the support, wherein the upper material is interposed between the paper web and the pressure body of the press apparatus and the seal has an outer surface contoured to conform with the support by having a radius of curvature at least as large as the radius of curvature of the support roll surface, the support comprising a rotatable support roll having a cylindrical support surface, a frame (frame 32) moveably supporting the pressure body of the press apparatus,

an actuator (air tubes 62, 64, 65, and 67) comprising at least one flexible tube operatively disposed between the frame and the pressure body for moving the pressure body toward and away from the support by expanding and contracting with pressurized air, and

a controller (which is inherently linked to a sensor) for causing the actuator to move the pressure body toward or away from the support for controlling an adequate pressure, gap size, and seal between the pressure body and the support without causing excessive wear to or destroying the web (see figures 1 and 2).

Lange does not disclose the upper and lower materials surrounding the paper web as being a belt and a felt, respectively, a sensor comprising a transducer mounted *in* one of the pressure body of the press apparatus or the support, the sensor producing a signal indicative of a pressure on the paper web as the paper web is passed through the gap adjacent the sensor, and the controller linked to the sensor for determining the measure of the gap as a function of the pressure sensed by the sensor.

Moore discloses a nip width sensing system for a paper web roll press, the sensing system having:

a sensor (sensor 4) mounted *in* a support (roll 2) at a contacting surface between the support and a press apparatus (roll 6), the sensor producing a signal indicative of a pressure on a paper web (web 10) as the paper web and a felt (fabric 8) are passed through a gap formed by the contacting surfaces between the support and the press apparatus, and

a controller (computer 18 and control system 22) linked to the sensor for determining the measure of the gap as a function of the pressure sensed by the sensor, and causing an actuator to move the press apparatus to control the gap size. Moore discloses that placing a sensor in the nip

between the press apparatus and the support is a beneficial since it provides a proper pressure measurement and allows the pressure measurements to be taken while the press is running, thus reducing down-time (see figures 1 and 3B, column 3, lines 66-67, and column 4, lines 1-7, and 45-65).

Referring to claims 1 and 16, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the sensor of the press disclosed by Lange by using a sensor in the support, as disclosed by Moore, in order to obtain pressure measurements while the press is running and reduce down-time.

Referring to claims 3, 10, 11, and 17, Lange and Moore disclose a sensor for measuring pressure. The use of the particular type of sensor claimed by applicant, i.e., transducer, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice, or design because the use of the particular sensor claimed by applicant is considered to be nothing more than the use of numerous and well known alternate types of sensors that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to measure the pressure at the nip as already suggested by Lange and Moore.

Referring to claims 4, 10, and 16, Lange and Moore disclose that a pressure sensor should be positioned so as to be located in the nip at the contacting surface between the press apparatus and the support in order to obtain a proper pressure measurement. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to change the location of the sensor from the location disclosed by Lange and Moore to a location in the seals of the air press, since the seals of the air press are in the nip and are the contacting surface

between the press apparatus and the support, which Lange and Moore discloses to be a desirable location for a pressure sensor.

Referring to claims 2, 4, 7, 8, 10, 16, and 17, the particular type of material used to make the upper and lower materials disclosed by Lange and Moore, i.e., a belt and felt, respectively, absent any criticality, is only considered to be the use of a “preferred” or “optimum” material out of a plurality of well known materials that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation based on the intended use of applicant’s apparatus, i.e., suitability for the intended use of applicant’s apparatus, which in this case is to protect and dry the paper web. See *In re Leshin*, 125 USPQ 416 (CCPA 1960) where the court stated that a selection of a material on the basis of suitability for intended use of an apparatus would be entirely obvious.

4. Claims 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore.

Moore discloses a sensing system for measuring a gap between a deflection roll and a support roll through which a composite web comprising a paper web disposed on a material travels, the system having:

- a controller (control system 22),

- a pressure source,

- a controlled deflection roll (crown roll, which inherently has a center shaft, a hollow roll shell disposed for rotation about the shaft, and a plurality of shoes mounted on the shaft for applying pressure to the roll shell),

a support roll (roll 2) mounted opposite of the deflection roll (6) and forming a gap therebetween,

a plurality of sensors (4) mounted in the support roll surface longitudinally of the support roll for measuring the gap, the sensors linked to the controller to provide signals indicating the size of the gap at corresponding locations,

the pressure source linked to the shoes for providing power to move the shoes,

the controller linked to the pressure source to actuate individual shoes responsive to the signals received from the sensors (see column 4, line 54-column 5, line 3).

Moore does not disclose the sensors being transducers.

The use of the particular type of sensors claimed by applicant, i.e., transducers, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice, or design because the use of the particular sensors claimed by applicant is considered to be nothing more than the use of numerous and well known alternate types of sensors that a person of ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to determine the gap between the rolls as already suggested by Moore.

Response to Arguments

5. Applicant's arguments with respect to claims 1-11, and 15-17 have been fully considered and applicant's arguments regarding the sensors being mounted in the press apparatus or support are found by the examiner to be persuasive, resulting in the new grounds of rejection in this Office Action.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents disclose pressure sensors for measuring nip load:

U.S. Patent 5,699,729 to Moschel

U.S. Patent 5,629,487 to Mucke et al

U.S. Patent 5,383,371 to Laitinen

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 703-305-0930. The examiner can normally be reached on M-F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F Gutierrez can be reached on 703-308-3875. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7725 for regular communications and 703-308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

mj
July 16, 2002



Diego Gutierrez
Supervisory Patent Examiner
Technology Center 2800